

IN THE CLAIMS:

Amendments to the Claims

Please cancel claims 1-6 without prejudice or disclaimer of the subject matter thereof, and add the new claims as shown below.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-6 (canceled)

7. (new) In a plasma processing apparatus in which a wafer is mounted on an upper member of a stage disposed within a vacuum chamber, the stage including a cooling jacket with a path disposed at an interior thereof for passing coolant liquid therethrough and the upper member being attached on the cooling jacket, the upper member including a heater and an electrode for an electrostatic chuck being disposed at an interior thereof, wherein the wafer is mounted on the upper member of the stage and processed by using plasma formed in the vacuum chamber above the stage, comprising:

surfaces of the cooling jacket and the upper member delimiting a gap therebetween which is sealed; and

a valve for adjusting a pressure of a space within the gap to be at a vacuum condition while the wafer is placed on the upper member of the stage.

8. (new) A plasma processing apparatus according to claim 7, further comprising a member which is subjected to one of mirror surface machining and plating treatment being disposed at an outer periphery of the upper member.

9. (new) In a plasma processing apparatus in which a wafer is mounted on an upper member of a stage disposed within a vacuum chamber, the stage including a cooling jacket with a path disposed at an interior thereof for passing coolant liquid therethrough and the upper member being attached on the cooling jacket, the upper member including a heater and an electrode for an electrostatic chuck being disposed at an interior thereof, wherein the wafer is mounted on the upper member of the stage and processed by using plasma formed in the vacuum chamber above the stage, comprising:

surfaces of the cooling jacket and the upper member delimiting a gap therebetween which is sealed; and

a portion disposed on a surface of the cooling jacket so as to oppose the upper member through the gap, the portion being subjected to one of mirror surface machining and plating treatment.

10. (new) A plasma processing apparatus according to claim 9, further comprising a member which is subjected to one of mirror surface machining and plating treatment being disposed at an outer periphery of the upper member.